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College of Agricultural and Environmental Sciences  
*Department of Entomology*



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Editor: Jennifer Berry, Agricultural Research Coordinator

## Managed Pollinator CAP Coordinated Agricultural Project

A National Research and Extension Initiative  
to Reverse Pollinator Decline



**Keith S. Delaplane, Professor and Director, University of Georgia**

I was sharply reminded this past summer of the plight of the modern beekeeper. But to tell the story I must go back two years to the winter of 2007 when I came to realize that my personal apiary, a monument to 30+ years of accumulated equipment, trial and error, bee lines of every genetic description, spectacular honey crops and equally spectacular failures, moderate profits and occasional losses, the topic of books and TV shows, the artifact of a boyhood hobby that opened doors to science, learning, a life career, and the world stage of apiculture – had reached a disgraceful state of neglect. It had become the victim of my dwindling time and energy. Having a full-time job in honey bee research and education my weekdays were never far from the sights, sounds, and smells of beekeeping, and our 200-hive university apiary gave me plenty of opportunity to work in the bees. All this meant that I was getting my bee fix, and when the weekends arrived and I surveyed my personal hives, it was always easy to put off until next

weekend the things that ought to have been done now. And by the winter of 2007 that policy had borne its fruit. My apiary was a shabby collection of dead-outs, sprinkled here and there with a colony that was valiantly hanging on in the midst of the carnage of those calling it quits. It was embarrassing.

Seized with a fit of resolve and new ambition, I purchased cases of new woodenware – 24 hives' worth – and spent the winter of 2007 working in my shop and making Big Plans. By spring those boxes were filled with bees and new queens, and by that summer my apiary had roared back and I was selling nucs to meet an insatiable demand for bees among the swelling ranks of hobby beekeepers in north Georgia.

But the rot set back in. Life doesn't stop coming at you, and the bees in the backyard, never clamoring for attention, were easy to ignore. The dead-outs increased, the wax moths proliferated, and bee traffic at the entrances subsided. This past summer I didn't have enough bees to bother selling nucs, and today that brief empire of 24 hives has dwindled to one lonely survivor. Multiply that kind of colony attrition across the country and you get an idea of what the modern beekeeper is up against.

I take the time to tell this story because those of us who measure our beekeeping experience in decades will remember a time when such things didn't happen. Bees, to paraphrase a saying usually attached to Mac computers, "just lived." But now the default setting is different. Bee colonies, absent heroic inputs by the beekeeper – feeding, medicating, endlessly replacing queens – are just as likely to fizzle and die. Exceptions abound all over the place, and I'm overstating things to make a point. But there can be no denying that the fundamental sustainability of honey bee populations has plummeted in recent years.

In historic terms, bee die-offs are episodic and nothing new. But I think it's arguable that the North American declines of recent years are systemic and qualitatively different from earlier records. We should not be surprised at this, owing to the fact our world – a world of synthetic pesticides, unprecedented intensity of agriculture, and global admixing of organisms – is qualitatively different from the world of, say, the Isle of Wight epidemic in Britain in the early 1900s. Another thing that's different is the degree of public attention being levied at the plight of pollinators. Bee decline has become the stuff of headline news. More to the point, bee decline has become the stuff of priority for federal agencies that fund research. And this is indeed a silver lining in the clouds.

I am heavily involved in one example of this new level of federal funding – the Managed Pollinator Coordinated Agricultural Project (CAP). The CAP concept is an innovation of the National Institute of Food and Agriculture – the branch of USDA responsible for competitive grants (not to be confused with the Agricultural Research Service that administers in-house federal labs). NIFA solicits and awards no more than one CAP project per year. CAP projects are multi-state, multi-year, national in scope, and integrate research with information delivery. The idea is to eliminate redundancy and create a seamless transition between new research and the public clients who can use it. Examples of other CAP projects include Avian Influenza, Porcine Reproductive and Respiratory Syndrome, and Johne's Disease in cattle. 2008 was the year for Managed Pollinators. I am privileged to head a successful proposal team of over 20 research and extension specialists representing 17 institutions who pooled our resources and ideas into a Coordinated plan to reverse honey bee decline.

Our approach has been to assume that bee decline is a product of numerous interacting factors, synthetic and organic. Late research seems to bear this out. Colonies expressing a set of symptoms sometimes called Colony Collapse Disorder (CCD) – rapid loss of adult bees and low ratios of adult bees to brood – have also shown comparatively high rates of mixed infections, including viruses and *Nosema* species<sup>1</sup>. It has, in fact, proven difficult for our CAP team to isolate single infections of anything. Multiplicity rules. And no doubt, multiplicity complicates the research problem exponentially, but I am also concerned that multiplicity has engendered something close to complacency among beekeepers and researchers, the logic of which, stated or unstated, goes like this: There are so many interacting factors that we cannot understand the cause of bee decline so we are left with no practical recommendations except vague concepts like ‘practice good management.’ I, for one, am weary of these unproductive and thinly-veiled confessions of ignorance. It’s not much different saying bee decline is caused by everything than to say bee decline is caused by nothing. Yes, we all believe that *Nosema*, viruses, mites, nutrition, pesticides, and migratory stress can all combine in synergistic ways to kill bees. But which factors are the most potent? the most causative? the most insidious? the most fundamental? - in other words, the most important to focus on? I may be naïve to think this, but I am hoping that our research programs, both inside and outside the CAP team, will eventually focus, prioritize, and shorten the list of candidate agents. Only then can we make practical advances on solutions. But as it stands, we are essentially in the same place medical science found itself in the days before Louis Pasteur pioneered germ theory. Medical practitioners blundered around in the dark, seeing symptoms, cataloguing them, sometimes making logical associations between cause and effect, and even occasionally stumbling upon a cure. But once Pasteur stripped away the veil of ignorance surrounding microbes, medicine leaped forward like a horse out of the gate and the world has never been the same since.

Although we are not promising to release any horses, our CAP team is heavily invested in basic research on viruses, *Nosema*, pesticide toxicology, and comparative stress of migratory versus stationary management because we are guessing that these broad categories hit close to the mark in identifying the factors most contributive to bee decline. We are heavily invested in bee breeding and conserving genetic diversity because we think that when it comes to mites and pathogens, genetically resistant bees are going to be part of the answer. We are mindful of the economic and practical roadblocks to bee breeding and are taking steps to address these with new initiatives in beekeeper training and education. We are mindful that honey bees are not the only show in town and have allocated roughly 7% of our budget to toxicology and pathology of non-*Apis* pollinators. We are aware of the high expectations attached to this CAP when it comes to knowledge delivery and are pleased to partner with the ARS bee labs in launching an extensive web-based Bee Health information clearinghouse at eXtension.org – viewable at <http://www.extension.org/bee%20health>. This site is well worth your time. In its mature state it’s envisioned to become the most complete and authoritative compendium of literature on bee health management that science can offer.

Now after one year of funding I would like to begin a regular series of columns to inform beekeepers of our activities and progress. In the future you will be hearing from team members responsible for different goals of the program. These goals are defined broadly as (1) Determine and mitigate causes of CCD, (2) Incorporate resistance traits and increase genetic diversity, (3) Improve conservation and management of non-*Apis* bees, and (4) Deliver research knowledge to

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<sup>1</sup> vanEngelsdorp et al. 2009. <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0006481>

client groups. You can read about these goals, our team members, management structure, and other relevant information at our dedicated website <http://www.beecdcap.uga.edu/>.

And lastly – a word about expectations. \$4.1 million sounds like a lot of money, and it is. But \$4.1 million divided among 4 years and 17 institutions translates to rather modest sums for each participant. We are not promising to solve bee decline and return beekeeping to the golden days before varroa, but we do expect to narrow and focus the list of candidate factors, interpreting and delivering to beekeepers to the extent possible the practical applications of our work, operating without redundancy and with a high level of group coordination, input, critique, and readjustment. Mine is the unenviable job of trying to balance optimism with reality. While we celebrate this award as a positive expression of federal interest in the welfare of bees and beekeeping, we recognize that the problem is immense and the outcomes of our project not entirely predictable. A problem of this magnitude will demand sustained levels of research and education funding from private and public sources for years to come as well as a culture of cooperation, mutual goodwill, and openness to new ideas and expectations among bee scientists and beekeepers. I think we're up to the task.

## **North Carolina Small Business of the Year Award**

For 32 years Steve and Sandy Forrest, owners of Brushy Mountain Bee Farm, have worked very hard building a business supplying beekeepers with woodenware, veils, hive tools, smokers, extractors and anything else a beekeeper could possibly want. The North Carolina Chamber of Commerce recognized their hard work and awarded them the North Carolina Small Business of the Year Award for 2009.

If you have ever been to a local, state or regional bee meeting and found yourself wandering through the vender's area, then you have probably met Steve or Sandy Forrest. They are the body and soul of Brushy Mountain Bee Farm. Each year they will attend anywhere from eight to ten different beekeeping meetings. They tirelessly stand from sun up to sun down explaining anything from how to become a beekeeper to why this bottom board is the best, or try this hat on or let me show you how that extractor works. Steve is definitely the salesman in the family, but he won't ever sell you anything he doesn't believe in or wouldn't use himself.

Brushy Mountain Bee Farm, like most businesses, wasn't created overnight. It took years to evolve and today is one of the largest bee supply companies in the US. In the beginning stages, Steve and Sandy started building equipment themselves in their basement. Today they employ nearly 50 people who build, sew, pack, and sell equipment in over 40,000 square feet of warehouse space.

This past year over 24,000 customers made the trek up the mountain in Wilkes county to shop at their country store, which has recently been replaced by a 12,000 square-foot new showroom complete with its very own extraction area. Due to the increasing demand for beekeeping equipment they opened a second branch facility in Pennsylvania. Helping with all this new expansion is their recently hired general manager, Shane Gebauer, whose inspiration and vision will definitely keep Brushy Mountain Bee Farm as leading contenders in the 21<sup>st</sup> century.

**Congratulations!**

## **Georgia Beekeepers Association Spring Meeting**

The Georgia Beekeepers Association Spring Meeting will be held in Moultrie, February 12<sup>th</sup>-13<sup>th</sup> at the Sunbelt Ag. Expo Site (209-G Harper Blvd). Speakers will include Dr. Mike Hood (Clemson University), Dr. Malcolm T. Sanford (University of Florida, Emeritus) Ted Dennard (President, Savannah Bee Company), Keith Fielder (Putnam County Agent), Tom Hill (NC Educator), and myself. The GBA's newly elected president, David Reed, has been working hard to make sure this will be yet another spectacular meeting. The emphases for the spring meeting will be hive colony health, honey purity and marketing and the importance of local clubs.

Fred & Ann Rossman of Rossman's Apiaries will be hosting the Friday night fish fry at their facility in Moultrie. If you were able to attend their last fish fry, then surely you remember how wonderful it was. And just for the fun of it, Spence Field, located at the expo site, has a 4,500-foot hard surface, controlled runway, which can facilitate FFA private and chartered aircraft. For more information about the meeting and directions to the expo please go to the Georgia Beekeeper's Association website at [www.gabeekeeping.com](http://www.gabeekeeping.com).

## **EPA Proposes New Pesticide Labeling to Control Spray Drift and Protect Human Health**

**From "Catch the Buzz"**

The U.S. Environmental Protection Agency has rolled out proposed guidance for new pesticide labeling to reduce off-target spray and dust drift. The new instructions, when implemented, will improve the clarity and consistency of pesticide labels and help prevent harm from spray drift. The agency is also requesting comment on a petition to evaluate children's exposure to pesticide drift. "The new label statements will help reduce problems from pesticide drift," said Steve Owens, the assistant administrator for EPA's Office of Prevention, Pesticides and Toxic Substances. "The new labels will carry more uniform and specific directions on restricting spray drift while giving pesticide applicators clear and workable instructions."

The new instructions will prohibit drift that could cause adverse health or environmental effects. Also, on a pesticide-by-pesticide basis, EPA will evaluate scientific information on risk and exposure based on individual product use patterns. These assessments will help the agency determine whether no-spray buffer zones or other measures – such as restrictions on droplet or particle size, nozzle height, or weather conditions – are needed to protect people, wildlife, water resources, schools and other sensitive sites from potential harm. In addition to the draft notice on pesticide-drift labeling, EPA is also seeking comment on a draft pesticide drift labeling interpretation document that provides guidance to state and tribal enforcement officials.

A second document provides background information on pesticide drift, a description of current and planned EPA actions, a reader's guide explaining key terms and concepts, and specific questions on which EPA is seeking input. These documents and further information are available in docket EPA-HQ-OPP-2009-0628 at <http://www.regulations.gov>. In a second Federal Register notice, EPA is also requesting comment on a petition filed recently by environmental and farm worker organizations. The petitioners ask EPA to evaluate children's exposure to pesticide drift and to adopt, on an interim basis, requirements for "no-spray" buffer zones near homes, schools, day-care centers, and parks. EPA will evaluate this new petition and take

whatever action may be appropriate after the evaluation is complete. For further information and to submit comments, please see docket EPA-HQ-OPP-2009-0825 at <http://www.regulations.gov>. For general information on pesticides and the EPA go to: <http://www.epa.gov/pesticides/factsheets/spraydrift.htm>

## The National Pesticide Information Center

The EPA, in cooperation with Oregon State University, has launched a new website: The National Pesticide Information Center, <http://npic.orst.edu/eco>. The website provides good information regarding pesticides (pesticide emergency resource, pest control, pets, wildlife and pesticides, storage and disposal, to name a few). However, the importance for beekeepers is that site provides a method for reporting an ecological incident that is suspected or known to have been related to pesticides. An ecological incident includes any adverse effects that involve non-target organisms such as wildlife, birds, fish, shellfish, bees, plants, soil and water. The site is limited to government organizations, academia, wildlife rehabilitation centers, conservation societies and beekeepers. However, the public may still report any adverse effect incident of a pesticide by calling NPIC at **1-800-858-7378**. This is an effort by the Office of Pesticide Programs to improve the quantity and quality of incident data they receive for pesticides. □

## Honeybees Face New Threat in Texas: Crazy Ants

By Katherine Harmon, Scientific America



Raspberry Ant

Viruses, grueling journeys, monoculture diets. U.S. honeybees have had it rough lately, and millions have perished from the mysterious colony collapse disorder (CCD). But now some of the nation's bees have a new threat to contend with: ants. And not just any ants. These ants are crazy—Raspberry crazy ants (*Paratrechina species near pubens*), to be precise. Named for their helter-skelter scamper, which contrasts with most ants' standard rank-and-file march, the tiny, invasive ants were first noticed near Houston in 2002 and have been destroying electronics, pestering

picnickers, and gunking up sewage pumps ever since. And now they have started to go after local honeybee hives, according to a recent Associated Press report. Beekeepers say the omnivorous ants swarming the hives appear to be less interested in the sweet honey inside than they are in the bee larvae there. And once a hive is decimated, the ants will take over and use it to raise their own young. One beekeeper reported that the ants had destroyed about 100 of his hives in the past year.

Aside from the crops they help to pollinate, the bees also produce about 4.9 million pounds of honey a year, the AP said. But these insidious ants have yet to gain state recognition as an

agricultural pest, which would free up more money for research into their lifecycles and biology. But in order to gain that title, the Texas and U.S. departments of agriculture require more study. And many feel that time is of the essence. "This is absolutely idiotic," Tom Rasberry, an exterminator and the ants' namesake, told the wire service. "If killing honeybees does not put it in the ag pest category, I don't know what does".

These ants are on the march—or scatter, as it were. Local researchers note that they are spreading north at a good clip and are now found in more than 10 Texas counties. They're easily transported accidentally through trash and plant material, according to the information on the University of Texas A&M Center for Urban & Structural Entomology Web site. Bees and electronics don't seem to be the only targets of these crazy ants. They also appear to have a taste for everything from ladybugs to fire ants. But even the experts are frustrated by the lack of knowledge about these new nuisances. "There are literally thousands of things we need to find out," Rasberry said, "otherwise we're going to do just like we did with the fire ant and wait until it was too late."

## **2009 Honey Update**

Honey prices remain strong across the US and the world market because of smaller than normal US and world honey crops. Due to this reduction, some honey is being held back hoping for better pricing down the road even though consumer demand is high. Regionally, California had a very poor crop this year because of continued drought. The Southeast, which produces much of the light amber honey, dealt with a different problem, too much rain. The Midwest, which is responsible for producing the majority of honey in the US, had a drastically reduced crop this year due to cool, wet conditions. Final 2009 US crop totals have not been tallied yet, but some are predicting a 15% decrease from last years crop of 161 million pounds.

## **Management Calendar: December to February in Georgia**

Where did the fall go? It seemed only a few short weeks ago the leaves were just starting to show off their fall beauty. Now here it is December, Christmas is just around the corner, and the New Year is breathing down our necks. Looking back, 2009 was a great year, but boy did it rain here in the Southeast.

Just a few years ago the Southeast was experiencing the worst drought in more than a century. Lakes, which supplied water to nearby towns and cities, were losing water so rapidly that fears about available drinking water in the near future began to surface. Strict rations and bans on outdoor watering became mandate around the state. Homeowners watched as their newly planted lawns, gardens and shrubbery turned brown and withered to the ground. Nurseries hit with restricted water use, and the inability to move vegetative stock (since nobody was planting), closed their doors forever. Car washes, swimming pools, and water parks were forced to turn the water off. Farmers watched as their crops wilted and died and the ground cracked and blew away. Local and state governments started panicking when it became obvious that the taps would soon run dry. Even lawsuits erupted between states and the federal government over which state had access to water usage from two river basins – the Alabama-Coosa-Tallapoosa and the Apalachicola-Chattahoochee-Flint.

So normal climatic changes or global warming? A recent study from Columbia University examined the 2005-2007 drought that brought the south to its knees and concluded that it was not global warming but instead population growth that ran the lakes dry. Between 1990 and 2007 Georgia's population increased by 3.06 million people but the water supply or storage capacity did not kept up with the growth. Therefore, the severe water shortages were a result from over population more than changing rainfall patterns

Now let's fast-forward the tape two years into the future and what do we see: the southeast experiencing record rainfall. Below are rainfall totals for 1999-2009. These amounts were recorded at Peachtree City, Georgia, south of Atlanta. The 2009 totals, which don't include a total for December, are double that which fell in 2007. Yet, so far this December we have already surpassed our monthly average of 3.71 inches of rain. Hopefully, 2010 will be a Goldilocks' year and be just right.



Boat stranded due to shrinking water levels on Lake Lanier.

Year	Rainfall Totals (inches) (Peachtree City, Ga)		Year	Rainfall Totals (inches) (Peachtree City, Ga)
1999	38.86		2005	56.43
2000	35.56		2006	48.46
2001	38.40		<b>2007</b>	<b>31.85</b>
2002	47.82		2008	41.43
2003	52.90		<b>2009</b>	<b>62.33</b>
2004	53.60			

With all this torrential rain, come swollen creeks, over-flowing rivers and streams. What used to be a dry creek bed one day can become a raging torrent of water the next. If you are at all concerned, check your hives. Several beekeepers were taken by surprise this year when a non-threatening stream quickly turned into what resembled the Mississippi river and in a matter of seconds years of hard work were swept down stream. One in particular, Bob Brachman, a

Russian queen producer, lost a significant number of breeder colonies when an unusual August thunderstorm dumped buckets of rain in just a few short hours.



Hive in Water

During these rainy, cold days of December and January, it's time for us to prepare for next year. Since bee supply companies will soon become bogged down with orders, usually by February, be sure to order your equipment sooner than later. That way you won't have to wait for your shipments to arrive, leaving little time to prepare for spring. So open those catalogs, figure out what you need and get your order in before the rush. Plus, you will need time to build your brand new woodenware and what a better time than winter. And trust me, building equipment, especially frames, can be very time consuming. This is also the perfect time to repair equipment you have laying around. However, if you have old, nasty equipment it may be time to toss it, especially old frames and wax. Think of wax as a sponge. Chemicals, along with numerous other contaminants hitchhiking their way into the hive can be absorbed into the wax. Plus, after generations of brood rearing the individual cell size becomes smaller, reducing the actual size of the developing bee. Overtime this old comb makes for unhealthy conditions for rearing brood.

Despite a beekeeper's most careful winter preparations, it may be necessary to make midwinter inspections of colonies to determine if they are in need of food. Living in the south has its advantages. As I finish this issue of the Georgia Bee Letter (December 10<sup>th</sup>) the temperature outside is 70°. A perfect day to inspect colonies, but tomorrow supposedly the high won't get out of the 40's. These periodic warm days allow us to open and inspect any colony in question. If you notice a day or two coming up where the temperatures will be 55° or above, you may want to take a trek out to the apiary and check in on your girls.

Remember, the three basic causes of winterkill are starvation, disease and queenlessness. If

proper fall management strategies were followed (strong viable queen, adequate supply of honey and pollen, colonies maintained in a disease and pest-free condition in well constructed hives protecting bees from extreme climatic conditions) then colonies should have no problem surviving the winter period.

If you read the above honey report then you are aware that honey crops were down for 2009. By mid-summer some of our colonies had already ran out of food, even though we took little to no honey from them. The rain, wind and cool temperatures moved in just as the spring nectar flow was reaching its peek. Then, due to all the rain over the summer, it looked as if we were going to have a bumper goldenrod crop in the fall. But once again, the rain, wind and cool temperatures kept our girls hunkered down inside, only able to admire the fall bloom from afar.

So check your colonies. Lifting colonies from the rear is a quick and easy method for determining quantities of honey stores. If the colony is light or low on food stores, mix a heavy 2:1 (sugar:water) syrup solution. You will need to use boiling water in order for the sugar to go into solution. Feed with gallon zip-loc baggies, inverted plastic pails, buckets, or jars atop the cluster. Do not rely on Boardman entrance feeders, internal division board feeders, or top feeders in cold weather since the bees are unable to leave the cluster in order to feed. At the lab we use 2-quart jars inverted over the hole of a commercial inner covers or our own homemade ones. If colonies are near starvation you must put the food directly above the cluster otherwise they will be too weak to take the syrup and will die.



Inner Cover

While out making mid-winter inspections, if you come across a weak or queenless colony, combine it with a stronger one. Small clusters rarely survive the winter, even in Georgia where the winters tend to be mild.

Hive protection is another consideration. During times of colder weather, mice love the warm accommodations provided by honeybee colonies. To keep out these unwanted intruders out, it is suggested to use an entrance reducer or mouse guard. Usually guards made of metal provide the best protection, since mice cannot chew through them. These entrance reducers also provide protection from cold drafts.

Once February arrives, don't forget to re-check colonies for honey/pollen stores and a viable queen. Colonies are gearing up for the upcoming nectar flow with increasing populations; therefore supplies will be dwindling quickly.

Hope you all have a safe and wonderful Christmas and a joyous New Year.

## How to Get Georgia Bee Letter

GBL can be received electronically by emailing your request to [jbee@uga.edu](mailto:jbee@uga.edu)

### Regular Meetings

Bartow Beekeepers Association	7:00 pm, second Tuesday	Agriculture Services Building, Cartersville (320 West Cherokee Ave)
Chattahoochee Beekeepers Association	7:00 pm bimonthly, second Monday	Oxbow Meadows Nature Center, Columbus
Cherokee Beekeepers Club	7:00 pm third Thursday	Cherokee Arts Center, Canton
Coastal Empire Beekeepers Association	6:30 pm second Monday	Southbridge Tennis Complex, Savannah
Coweta Beekeepers Association	7:00 pm second Monday	Coweta Fairgrounds Conference Center
East Central Georgia Bee Club	7:00 pm fourth Monday, (bi-monthly)	Burke Co. Office Park Complex
Eastern Piedmont Beekeepers Association	7:30 pm first Monday	UGA Bee Lab, 1221 Hog Mtn Rd, Watkinsville
Forsyth Beekeepers Club	6:30 pm fourth Thursday	Forsyth County Main Library, Cumming
Heart of Georgia Beekeepers Association	7:00 pm third Tuesday	Houston Co. Gov't Building, Perry
Metro Atlanta Beekeepers Association	7:00 pm second Wednesday	Atlanta Botanical Garden, Atlanta
Mountain Beekeepers Association	7:00 pm first Tuesday	Mountain Regional Library, Young Harris
Northeast Mountain Beekeepers Association	7:00 pm second Thursday	Northeast Georgia Regional Library, Clarksville
Northwest Georgia Beekeepers Association	7:00 pm second Monday, Jan - June & Sept	Walker County Agric. Center, Rock Spring
Southeast Georgia Beekeepers Association	7:00 pm fourth Tuesday, Aug-March	Wacona School Building, Waycross
Southwest Georgia Beekeepers Association	7:30 pm last Tuesday, even months	Swords Apiaries, Moultrie
Tara Beekeepers Assn (Clayton Co. area)	7:30 pm third Monday	Reynolds Nature Preservation

### Beekeeping Subscriptions

<i>American Bee Journal</i> , Hamilton, Illinois 62341	(217) 847-3324
<i>Bee Culture</i> , 623 W. Liberty Street, Medina, Ohio 44256	(330) 725-6677
<i>The Speedy Bee</i> , P.O. Box 998, Jesup, Georgia 31598-0998	(912) 427-4018

### Resource People for Georgia Beekeeping

Bartow Beekeepers Association <a href="http://www.bartowbeekeepers.com/">http://www.bartowbeekeepers.com/</a> Victor Halbgewachs, President <a href="mailto:victorhobby@yahoo.com">victorhobby@yahoo.com</a>	Forsyth County Beekeepers Andy Bailey (678) 859 1899 <a href="mailto:andy.bailey@siemens.com">andy.bailey@siemens.com</a>	S.W. Georgia Beekeepers Sonny Swords 5 - 28th Avenue N.W. Moultrie, GA 31768 (912) 941-5752
Chattahoochee Valley Beekeepers Assoc. Jim Harris, President 34333 Pontiac Drive Columbus, GA 31907 (706) 563-4186 <a href="mailto:hhonybee@bellsouth.net">hhonybee@bellsouth.net</a>	Georgia Dept. of Agriculture Barry Smith, Manager Apiary Program P.O. Box 114 Tifton, GA 31793 (912) 386-3464 <a href="mailto:bsmith@agr.state.ga.us">bsmith@agr.state.ga.us</a>	Tara Beekeepers Association Gary Cooke, President (770) 507-4661 <a href="mailto:Lcooke77@aol.com">Lcooke77@aol.com</a>
Cherokee Beekeepers Club Ryan A. Sarks, President (770) 639-0868 <a href="mailto:beehavenapiaries@gmail.com">beehavenapiaries@gmail.com</a>	Heart of Georgia Beekeepers Association Steve Nofs <a href="mailto:ganofs@cox.net">ganofs@cox.net</a>	Town County Coordinator Robert Brewer Georgia Master Beekeeper Coordinator PO Box 369 Hiawassee, GA 30546 (706) 896-2024 <a href="mailto:RBrewer@uga.edu">RBrewer@uga.edu</a>
Clarks Hill Bee Keepers Association Berman Kent, Treasurer (706) 836-1026 <a href="mailto:bermankent08@comcast.net">bermankent08@comcast.net</a>	Metro Atlanta Beekeepers Richard Kiefer, President <a href="mailto:rokmak@comcast.net">rokmak@comcast.net</a>	University of Georgia Jennifer Berry Apicultural Research Coordinator 1221 Hog Mountain Rd. Watkinsville, GA 30677 (706) 769-1736 <a href="mailto:jbee@uga.edu">jbee@uga.edu</a>
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Coweta Beekeepers Association Charles Olsen (770) 304-2737 <a href="mailto:ceolsenga@juno.com">ceolsenga@juno.com</a>	Northeast Mountain Beekeepers Assoc. John Haaseth, President (706) 865-1085	
East Central Georgia Bee Club Roosevelt McWilliams, President Waynesboro, GA 30830 <a href="mailto:mckill@uga.edu">mckill@uga.edu</a>	Northwest Georgia Beekeepers Association Dave Reed, President 6807 Cedar Wood Court East Ridge, TN 37412	
Eastern Piedmont Beekeepers Assoc. Bill Owens, Chairman (770) 266-6619	Southeast Georgia Beekeepers Assoc. Ben Bruce 159 Homeplace Road Homerville GA 31634 (912) 487-2001 <a href="mailto:nutnhoney@windstream.net">nutnhoney@windstream.net</a>	 Jennifer Berry, Research Coordinator

County Extension Coordinator